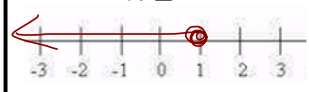
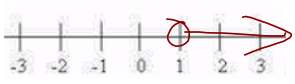
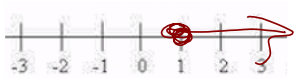
Inequality Vocabulary

Less than	Less than or equal to	Greater than	Greater than or equal to
$<$	$\leq$	$>$	$\geq$
fewer than,	At most No greater than	More than exceeds	At least No less than
○	●	○	●
$x < 1$ 	$x \leq 1$ 	$x > 1$ 	$x \geq 1$ 
Ex: Fewer than 11 people completed the survey. $x < 11$	Ex: At most 37 dogs can be lodged in a kennel. $x \leq 37$	Ex: The students spent more than $200 on the class trip. $x > 200$	Ex: She needed at least 12 ounces of milk for the recipe. $x \geq 12$

Graphing and Solving Linear Inequalities

I. Translate each of the following inequalities.

1) The maximum number of participants is 9 $x \leq 9$

2) There are at least 25 cars in the parking lot $x \geq 25$

3) The number of tissues in the box exceeds 100 $x > 100$

4) There can be no fewer than 7 students in the class $x \geq 7$

5) The number is no less than -11 $x \geq -11$

6) There are at most 8 markers on the board ledge $x \leq 8$

II. Match each inequality with the correct statement.

7) $3n < 9$ D

8) $\frac{1}{3}n \geq 9$ F

9) $3n \leq 9$ A

10) $-3n > 9$ C

11) $\frac{1}{3}n \leq 9$ B

12) $-3n \geq 9$ E

A) Three times a number is at most nine.

B) One-third of a number is no more than nine.

C) Negative three times a number is more than nine.

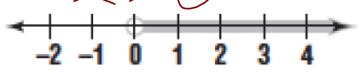
D) Three times a number is less than 9.

E) Negative three times a number is at least nine.

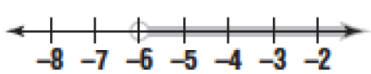
F) One-third of a number is greater than or equal to nine.

III. Write an inequality to represent each graph.

13) $x > 0$

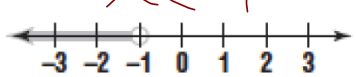


14) $x > -6$

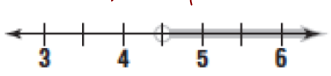


15) $x \leq 8$

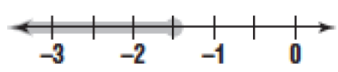
16) $x < -1$



17) $x > 4.5$

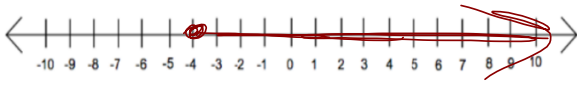


18) $x \leq -1.5$

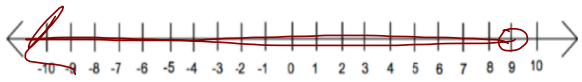


IV. Graph each of the following inequalities.

19) $w \geq -4$



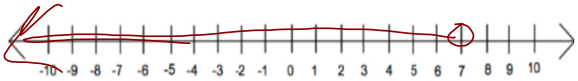
20) $c < 9$



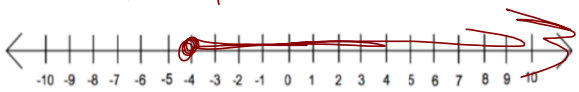
21) $n \leq -3$

22) $a > 5$

23) $7 > n$ $n < 7$

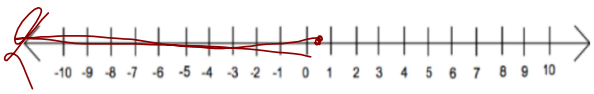


24) $-4 \leq d$ $d \geq -4$



25) $0 < m$ $m > 0$

26) $0.5 \geq k$ $k \leq 0.5$



V. Solve each of the following inequalities.

27) $x - 7 \leq 13$ → $+7 \quad +7$ → $x \leq 20$

28) $x + 11 > 15$ → $-11 \quad -11$ → $x > 4$

29) $8x < 32$ → $\frac{8x}{8} < \frac{32}{8}$ → $x < 4$

30) $39 > 13x$ → $\frac{39}{13} > \frac{13x}{13}$ → $3 > x$

31) $-10x \geq 20$ → $\frac{-10x}{-10} \geq \frac{20}{-10}$ → $x \leq -2$

32) $-13x \leq 52$ → $\frac{-13x}{-13} \leq \frac{52}{-13}$ → $x \geq -4$

33) $5x + 13 \geq -17$ → $-13 \quad -13$ → $5x \leq -30$ → $x \leq -6$

34) $2x + 8 < 12$ → $-8 \quad -8$ → $2x < 4$ → $x < 2$

35) $-3x - 12 > 18$ → $+12 \quad +12$ → $-3x > 30$ → $x < -10$

36) $-6x - 14 \leq 22$ → $-6x \leq 36$ → $x \geq -6$

38) $5x + 2 < 2x - 28$ → $-2x \quad -2x$ → $3x + 2 < -28$ → $3x < -30$ → $x < -10$

39) $8x - 10 < 6 - 2x$ → $+2x \quad +2x$ → $10x - 10 < 6$ → $10x < 16$ → $x < 1.6$ OR $x < \frac{16}{10}$ OR $x < \frac{8}{5}$